

tively few and localized. Plants with somatic numbers of 18, 36 and 54 occur in Europe; the tetraploid plants are somewhat commoner than the diploids and hexaploids are rare.

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NOTES ON THE DISTRIBUTION OF OHIO COMPOSITAE:
I. HELIANTHEAE, ANTHEMIDEAE¹

ROBERT W. LONG

This series of observations was made during the preparation of "A Preliminary List of the Compositae of Ohio."² The plants named below are those whose occurrence in Ohio is poorly understood judging from the information given in Gray's Manual (1950) and The New Britton and Brown Illustrated Flora (1952). Most of these plants were introduced into Ohio as weeds either from Europe or from western states. This illustrates, however, the

¹ This study was aided in part by a grant from the Ohio Academy of Science.

² LONG, ROBERT W. (1957) A preliminary list of the Compositae of Ohio. The Ohio Flora Comm., Ohio State University, Columbus, Ohio.

changing composition of the state flora, especially with respect to the *Compositae*.

All specimens cited here are deposited in the Herbarium of the Ohio State University, and the identifications all have been verified by the writer.

HELIANTHEAE

Ambrosia bidentata Michx. This western species of prairies and other dry places is apparently known only from the extreme southern portion of the state, in the Allegheny Plateau. It was undoubtedly introduced from regions west, but the evident delimitation to the unglaciated portion of Ohio cannot be explained at this time. COLLECTION DATA: Jackson Co. Madison Twp., in a cornfield four miles NE. Thurman, *Floyd Bartley and Lawrence Hicks*, Aug. 14, 1955. Also, specimens were examined from Adams, Gallia, and Lawrence counties.

Ambrosia psilostachya DC. var. **coronopifolia** (T. & G.) Farw.

Another western ragweed, this plant appears to be limited to the extreme northern part of the state. It is no doubt adventive from the West, with collections being made chiefly from railroad yards, and other waste places. COLLECTION DATA: Lake Co., N. Y. Central R. R. at Perry, *Fred J. Tyler*, July 23, 1933. Also, Huron and Ottawa counties.

Coreopsis verticillata L. This is a plant of dry woods and is found in the southeastern states. Its occurrence in Ohio is considerably north of its center of distribution. Only one collection was seen and the species is probably very rare. COLLECTION DATA: Clark Co., Silver Lake near New Carlisle, *John H. Schaffner*, Aug. 30, 1929.

Helianthus angustifolius L. This species is known only from one county at the southeastern edge of the state. It is probably an escape from cultivation, or otherwise introduced. Typically, this plant grows in moist places in southeastern United States, but extends inland to Kentucky and Indiana. There are two separate collections from the same county in Ohio. COLLECTION DATA: Washington Co. in an old field, 3 mi. N. Marietta, *Floyd Bartley*, Oct. 20, 1951.

The genus *Helianthus* is well-represented in the state and a number of putative hybrids have been identified. They are *Helianthus* × *ambiguus* T. & G. pro. sp., *H.* × *luxurians* Watson pro. sp., *H. giganteus* × *mollis*, *H. occidentalis* × *grosseserratus*, and *H. petiolaris* × *annuus*. *Helianthus brevifolius* Watson was based on a collection from Lake county and the type has been examined. The status of this name is not clear at present, but it appears to refer to a hybrid of *Helianthus grosseserratus* and *H. divaricatus* (*H.* × *divariserratus* Long), judging from the size, shape, and arrangement of leaves. COLLECTION DATA: Lake Co., Richmond, *Otto Hacker*, 1894, (TYPE).

Rudbeckia hirta L. var. **Brittonii** (Small) Fern. This variety is distinguished from the typical one by the presence of oblong phyllaries. Known from West Virginia, this record represents a westward extension for the variety. COLLECTION DATA: Coshocton Co. *Harold N. Moldenke* 13293, July 25, 1942.

Rudbeckia tenax Boynt. & Beadle. A single collection from southern Ohio, this would constitute an eastward range extension for the species, previously reported for Indiana and Illinois. COLLECTION DATA: Adams Co. SW. corner Oliver Twp., openings, post oak area, *E. Lucy Braun*.

Silphium laciniatum L. Schaffner has noted on a collection from Franklin Co. that this plant is probably not native to Ohio, but rather is adventive from the West. In his Revised Catalogue,³ however, he lists it as apparently indigenous. Its chief distribution occurs in the prairies of Michigan and North Dakota, Oklahoma, and Texas. It is known from widely separated areas in Ohio. One of the collections is from the unglaciated, southern tip of the state. COLLECTION DATA: Lawrence Co., collected in an old field along route 141, 1.6 mi. S. Wilgus, 200 plants in one patch; *Floyd Bartley and Lawrence Hicks*, Aug. 3, 1952. Also, specimens from Franklin and Summit counties.

ANTHEMIDEAE

Achillea Ptarmica L. A single collection with "flowers not doubled," probably escaped from local cultivation. In general, this collection is south of the chief Midwestern area of distribution for this species. COLLECTION DATA: Franklin Co., *W. H. Camp*, June 1, 1934.

Anthemis arvensis var. **arvensis** L. A single collection, but at this location very abundant as a weed, evidently. According to the distribution given in Gray's Manual this would be a westward range extension. COLLECTION DATA: Highland Co., Hillsboro, B. & O. freight yards, *Katie M. Roads*, June 22, 1931.

Anthemis arvensis var. **agrestis** (Wallr.) DC. Differing from the typical variety by the presence of chaff shorter than disk flower; more common than the preceding, but from widely scattered localities in Ohio. COLLECTION DATA: Greene Co., in a yard near Fairborn, *Clara Weishaupt*, June 25, 1953. Other collections from Lorain and Auglaize counties.

Anthemis mixta L. The occurrence of this plant as a weed is a westward extension of the range given in the manuals; A single collection. COLLECTION DATA: Lake Co. Painesville, Ohio; *Otto Hacker*, July 28, 1901.

Anthemis tinctoria L. From four widely separated areas of Ohio, probably commoner than indicated here. COLLECTION DATA: Marion Co., *R. A. Dobbins*, August 24, 1937. Other collections from Fairfield, Guernsey, and Lake Counties.

Artemisia albula Woot. This species is not given in either manual and is definitely a plant of the western plains, specifically of Texas, Colorado, and New Mexico. It was collected, however, outside of cultivation, and the specimen is typical in every way according to its description. COLLECTION DATA: Coshocton Co. along fence row, Mill Creek watershed, *H. N. Moldenke 13320*, July 28, 1942.

Matricaria Chamomilla L. From the collections seen, this plant is

³ SCHAFFNER, JOHN H. (1932) Revised Catalogue of Ohio Vascular Plants. Ohio Biol. Survey 5: 89-215.

found in widely scattered portions of the state as an occasional weed. COLLECTION DATA: Pike Co., Jackson Twp., in an old field head of Toad Heaven Hollow; *Floyd Bartley*, May 17, 1947. Other collections from Greene, Lake, Lawrence, and Ottawa counties.—DEPARTMENT OF BOTANY, OHIO WESLEYAN UNIVERSITY, DELAWARE, OHIO

A TAXONOMIC STUDY OF THE GENUS *PHYSALIS* IN NORTH AMERICA NORTH OF MEXICO

U. T. WATERFALL

(Continued from p. 114)

KEY TO GROUPS OF SPECIES OR TO UNIQUE SPECIES

1. Corolla yellow, yellowish-green or white, with or without darker spots; plant surfaces without crystalline vesicles; enlarging ovules all of one kind.
2. Corolla with broad shallow sinuses between the lobes; fruiting calyx reddish. 1. *P. Alkekengi*.
2. Corolla truncate; fruiting calyces not red.
3. Plants covered with stellate or variously branched trichomes, or glabrous with a few stellate hairs on the sepals or sometimes on the leaf margins. GROUP I.
3. Plants nearly glabrous, or variously hairy, but branched hairs, if present, very small and inconspicuous and usually much less numerous than the short unbranched hairs mixed with them.
4. Anthers (2) 3–5 mm. long; perennials excepting *P. ixocarpa* and *P. Wrightii*. GROUP II.
4. Anthers (.5) 1–2.3 (2.8) mm. long; annuals
5. Plants nearly glabrous, usually with a few short curved or appressed hairs on the sepals or young parts. GROUP III.
5. Plants long-hairy, sometimes with shorter hairs or glands intermixed. GROUP IV.
1. Corolla blue to purple (rarely white), or yellow and with plump seedlike corky bodies mixed with the reniform seeds.
6. Corolla blue to purple (rarely white), rotate; no corky bodies mixed with the seeds; herbage with few to many crystalline vesicles, sometimes giving it a scurfy look. 21. *P. lobata*.
6. Corolla yellowish, funnelform; plump, rounded, corky seedlike bodies mixed with the reniform seeds. 22. *P. Carpenteri*.

GROUP I

1. Hairs stellate, each ray sometimes rebranched, the verticils sometimes in more than one series, and sometimes the branches irregularly arranged; or plant with a coat of short stellate hairs, plus either long-stiped branched hairs, or simple hairs.
2. Leaves ovate to narrowly linear, their blades mostly 2.5–6 times longer than the petiole, sometimes decurrent on it; corolla usually not dark spotted, or with spots not very prominent in herbarium specimens (rarely with prominent dark spots and more or less spathulate leaves); maritime